

REMARKS/ARGUMENTS

Favorable reconsideration of this Application, as presently amended and in light of the following discussion, is respectfully requested.

This Amendment is in response to the Office Action mailed on June 10, 2005. Claims 1, 3-17, 26, 28, and 31-35 are pending in the Application, Claims 1, 3, 7-14, 16-18, 26, 28, and 36 stand rejected and Claims 2, 4-6 and 15 stand objected to as being dependent upon rejected base claims, but would be allowed if rewritten in independent form. Claims 31-35 have been allowed. Claims 1, 4, 6, 8, 10, 11, 13, and 15 are amended and Claims 2, 18, and 36 are cancelled without prejudice or disclaimer by the present Amendment.

The indication of allowable subject matter is noted with appreciation. The allowable subject matter of now canceled Claim 2 is amended to Claims 1 and 13, thus Claims 1, 3, 4, 5, 7, 9, 12-14, 16, and 17 are believed to be in condition for allowance. Claims 6 and 15 have been re-written in independent form and are, therefore, also believed to be in condition for allowance.

Summarizing the outstanding Office Action, Claims 1, 3, 7-11, 13, 14, 16-18, and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews (U.S. Patent No. 5,363,128) in view of Nakajima et al. (U.S. Patent No. 5,753,907, hereinafter “Nakajima”); Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews in view of Nakajima, and further in view of Hayashi et al. (U.S. Patent No. 6,081,386, hereinafter “Hayashi”); and Claims 26 and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews in view of Hasegawa et al. (U.S. Patent No. 5,596,430, hereinafter “Hasegawa”). In view of the present Amendment, only the rejections of Claims 8, 10, 11, 26 and 28 are outstanding.

As to the outstanding obviousness rejections, Applicants respectfully submit that Andrews, Nakajima, Hayashi, and Hasegawa, neither individually nor in any combination, support a *prima facie* case of obviousness of the invention recited in Claims 8, 10, 11, 26, and 28. This is so for at least two reasons. First, there is no motivation to combine the references, except for the use of impermissible hindsight. Secondly, even when combined, these references do not teach or suggest all the claimed features.

As to the proposed combination in the rejection of Claims 8, 10, and 11, Applicant respectfully traverses the obviousness rejection based on the combination of Andrews and Nakajima because there is insufficient evidence for a motivation to modify the Andrews device by incorporating from Nakajima the list of claimed features acknowledged as missing in Andrews, for the following reasons.¹

The Office asserts that, simply because Andrews and Nakajima are allegedly from the same field of endeavor, one of the objects of the Nakajima invention provides the motivation to combine the references, i.e., somehow Nakajima's object of maintaining a constant exposure intensity when a light beam spot position on the scanned surface is adjusted, is the motivation to modify Andrews by the teachings of Nakajima. Applicants respectfully disagree and point out that the record fails to provide the required evidence of a motivation for a person of ordinary skill in the art to perform such modification. The position that the

¹ See MPEP 2143.01 stating "[o]bviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art," (citations omitted). See also MPEP 2144.08 III stating that "[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection. . . Conclusory statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings."

device of Andrews could be modified to arrive at the claimed device is insufficient to establish a *prima facie* case of obviousness.²

While the Nakajima patent may provide a reason for using the several elements acknowledged as not being present in the multiple beam scanning apparatus of Andrews, Nakajima fails to suggest why a person of ordinary skill in the art would be motivated to incorporate such features in a device and an apparatus for scan line process direction control identified as missing, such as the one disclosed in the Andrews patent. Furthermore, Nakajima does not suggest that its disclosed elements identified as missing in the primary reference would work in the multiple scanning apparatus disclosed therein, much less “to maintain constant an exposure intensity when a light beam spot position on the scanned surface is adjusted.” The Nakajima patent does not state that the Andrews’ device and apparatus for scan line process direction control in a multicolor electrostatographic machine need “to maintain constant an exposure intensity when a light beam spot position on the scanned surface is adjusted.”

In addition, the Andrews patent is not concerned with maintaining constant an exposure intensity when a light beam spot position on the scanned surface is adjusted. Instead, the Andrews patent is concerned with a device and apparatus for providing controlled alignment of a scan line in the process direction of movement of a photoconductive member in a multi-color electrostatographic printing machine.³ In addition, Andrews appears to be silent as to any need to maintain constant exposure intensity when a light beam spot position on a scanned surface is adjusted.

²See MPEP 2143.01 stating that the “fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness”; see also same section stating “[a]lthough a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so,’” (citation omitted).

³ Andrews, col. 1, lines 10-14.

As such, Andrews and Nakajima, therefore, do not provide the motivation to perform the proposed modification of the Andrews device. In other words, an attempt to bring in the isolated elements of Nakajima into the Andrews device would amount to improperly picking and choosing features from different references without regard to the teachings of the references as a whole.⁴ While the required evidence of motivation to combine need not come from the applied references themselves, the evidence must come from *somewhere* within the record.⁵ In this case, the record fails to support the proposed modification of the Andrews system. Thus, there is no motivation to combine the cited references.

The presence or absence of a motivation to combine references is a question of fact,⁶ which should be evaluated under the substantial evidence standard as required by the administrative Procedures Act.⁷ Substantial evidence is “such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.”⁸ Based on such a standard, the MPEP requires “[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection. . . . Conclusory statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings.”⁹ Applicants respectfully submit the statement that several elements of Nakajima would be incorporated in

⁴ See *In re Ehrreich* 590 F2d 902, 200 USPQ 504 (CCPA, 1979) (stating that patentability must be addressed “in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of first one and then another of the isolated teachings in the art,” and that one “must consider the entirety of the disclosure made by the references, and avoid combining them indiscriminately.”)

⁵ *In re Lee*, 277 F.3d 1338, 1343-4, 61 USPQ2d 1430 (Fed. Cir. 2002) (“The factual inquiry whether to combine references . . . must be based on objective evidence of record. . . . [The] factual question of motivation . . . cannot be resolved on subjective belief and unknown authority. . . . Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency’s conclusion”).

⁶ See, for example, *In re Dembiczak*, 175 F.3d 994, 1000 (Fed. Cir. 1999).

⁷ *Dickenson v. Zurko*, 119 S. Ct. 1816, 50 USPQ 2d 1930 (1999); *In re Gartside*, 203 F.3d 1305, 53 USPQ 2d 1769 (Fed. Cir. 2000).

⁸ *In re Gartside*, 203 F.3d 1305, at 1312 (Fed. Cir. 2000).

⁹ MPEP § 2144.08 III.

Andrews in order to maintain constant an exposure intensity when a light beam spot position on a scanned surface is adjusted is merely a statement of possibility¹⁰ that disregard what each reference teaches as a whole and not of a motivation to combine satisfying the strict fact-finding requirement just noted. In other words, the mere presence of a claimed feature in a secondary reference is insufficient to establish a motivation to incorporate that feature in the teachings of a primary reference.

However, even if one assumes *in arguendo* that such a motivation exists, Claim 8 is not rendered obvious by the combination of Andrews and Nakajima because recited elements are neither taught nor disclosed by the resulting combination. Claim 8 recites, among other features, that a detecting unit is further configured to detect a light beam for synchronization of light scanning. The outstanding Office is devoid of any explanation, let alone substantial evidence, on how the combination of Andrews and Nakajima teaches or discloses such a feature.

As to Claim 10, the combination of Andrews and Nakajima does not teach or disclose a compensating unit configured to displace an aperture. The aperture 27 shown in Nakajima is employed as a beam shaping medium,¹¹ and not as an intensity adjustment of a light beam. In addition, “the position of only the aperture 27 is kept constant regardless of rotational movement of the light source,”¹² thus such an aperture is not displaced.

Claim 11 recites that a compensating unit is configured to control a transmissivity adjusting unit provided between a light source and a polygon mirror. Such a feature is neither taught nor disclosed in either Andrews or Nakajima. Light transmission is related to

¹⁰ “The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

¹¹ Nakajima, col. 5, lines 60-61.

¹² *Id.*, lines 41-42.

the fraction of an incident light radiant flux that is transmitted through a medium. The outstanding Office seems to suggest that the fact that the aperture 27 “blocks” light it adjusts its transmissivity. Applicants respectfully disagree with such an unsubstantiated statement of conclusion.

Similar arguments can be made against the combination of Andrews and Hasegawa in the rejection of Claim 26 and 28. That is, there is no motivation to combine these references and, even if combined, the resulting combination does not teach or disclosed all of the features recited in Claims 26 and 28. The arguments for the lack of motivation are similar to the ones already presented for the purported motivation to combine Andrews and Hasegawa as to the provision of a “high efficiency of usage of a deflected light whose wave surface is not disturbed.” Hasegawa is silent as for the application of its system in the device of Andrews. Also, Andrews is silent as to the need to increase any efficiency of deflected light. Thus the motivation to combine does not flow from the teachings of the references and the record is devoid of any substantial evidence for the proposed combination.

However, even if one assumes that the references can be combined, the resulting combination does not teach that a maximum deflecting angle of each liquid crystal element is ± 4.0 (minute) or less or $+/-.2.0$ (minute), as recited in Claims 26 and 28, respectively. As explained in Applicants’ specification, the maximum deflecting angle is determined because the thickness of the liquid crystal layer can not be easily increased since increasing the thickness of the liquid crystal layer may cause several undesirable effects due to the deviation in thickness of the liquid crystal layer, the transparent electrode (ITO) film, and the orientation film, such as: (a) linear degrading of refractive index distribution; (b) change in transmissivity due to multiple interference; and (c) degrading of wave-front aberration.

Accordingly, taking the cost, performance, and yields into consideration, the inventor considers it practical to set the maximum defecting angle at about \pm 4.0 minutes.¹³

Hasegawa teaches and discloses a deflecting angle of 9.5 degree (or 5.7 minutes) for a cell thickness of 30 microns without taking the restriction on the cell thickness into consideration.¹⁴ The disclosed deflecting angles of Hasegawa do neither anticipate nor render obvious Applicants' claimed range. Thus, the statement in the outstanding Office Action regarding the discovery of an optimum value is inapplicable. Therefore, Claim 26 is not obvious to those with ordinary skills in the art over Andrews in view of Hasegawa. For similar reasons, Claim 28 should also be allowed over the cited combination of Andrews and Hasegawa. In addition, Hayashi does not remedy any of the above-discussed deficiencies of the references already discussed.

Accordingly, Andrews, Nakajima, Hayashi, and Hasegawa, neither individually nor in any combination, make obvious the invention recited in Claims 8, 10, 11, 26, and 28. For the foregoing remarks, Applicants respectfully request withdrawal of the rejection of Claims 8, 10, 11, 26, and 28 under 35 U.S.C. § 103(a).

Consequently, in light of the prior indication of allowable subject matter and in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1, 3-17, 26, 28, and 31-35 is earnestly solicited.

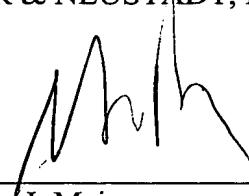
¹³ See, for example, Specification, page 87, line 18 – page 88, line 6.

¹⁴ Hasegawa, col. 7, lines 9-35.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representatives at the below listed telephone number.

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